Amendments to the Claims

1. (Currently Amended) Electromechanical brake, especially for vehicles, with an electrical actuator which generates an actuation force and acts on one friction member in order to press said member to elicit a friction force against a rotational component, which is to be braked, of the brake, and a self-boosting device arranged between the friction member and the electrical actuator, said device serving to self-boost the actuation force generated by the electrical actuator, and having at least one wedge (12), which has a wedge surface (14) arranged at a wedge angle [[α]] (α) and supported on a corresponding counter bearing (16), wherein

- the electrical actuator displaces the wedge (12) relative to the counter bearing (16) in an actuation direction (x) to actuate the brake, and
- the wedge angle [[α]] (α) is constant on a first segment (18) of the wedge surface (14), which is effective at the start of brake actuation, and greater self-boosting is provided by a second segment (20) which follows the first segment (18), the wedge angle (α) on the second segment being smaller than on the first segment (18).

2. (Currently Amended) Brake according to Claim 1, characterized in that in the wedge angle [[α]] (α) on the second segment (20) is at least partly constant.

3. (Original) Brake according to Claim 2,

characterized in that the transitions between the first segment (18) and the second segment (20) and between parts of the second segment (20) have second-order continuity.

4. (Currently Amended) Brake according to Claim 1,

characterized in that the wedge angle [[α]] (α) along the second segment (20) reduces continuously, beginning with the value which the wedge angle [[α]] (α) has on the first segment (18) of the wedge surface (14).

5. (Currently Amended) Brake according to Claim 1,

characterized in that the wedge angle [[α]] (α) along the second segment (20) is chosen so that, with constant actuator force, the compressive force which acts on the friction member increases as the wedge (12) is increasingly displaced in the actuation direction (x).

6. (Currently Amended) Brake according to Claim 5,

characterized in that the wedge angle [[α]] (α) along the second segment (20) is chosen so that, with constant actuator force and minimum coefficient of friction, the compressive force which acts on the friction member increases as the wedge (12) is increasingly displaced in the actuation direction (x).

7. (Currently Amended) Brake according to Claim 1,

characterized in that the wedge angle [[α]] (α) along the second segment (20) is chosen so that, with reducing actuator force, the compressive force which acts on the friction member increases as the wedge (12) is increasingly displaced in the actuation direction (x).

8. (Currently Amended) Electromechanical brake, especially for vehicles, with an electrical actuator which generates an actuation force and acts on one friction member in order to press said member to elicit a friction force against a rotational component, which is to be braked, of the brake, and a self-boosting device arranged between the friction member and the electrical actuator, said device serving to self-boost the actuation force generated by the electrical actuator, and having at least one wedge (12), which has a wedge surface (14) arranged at a wedge angle [[α]] (α) and supported on a corresponding counter bearing (16), wherein

- the electrical actuator displaces the wedge (12) relative to the counter bearing (16) in an actuation direction (x) to actuate the brake, and

- the wedge angle [[α]] (α) is constant on a first segment (18) of the wedge surface (14), which is effective at the start of brake actuation, and is, on a second segment (20) which follows the first segment (18), smaller than on the first segment (18);

characterized in that the wedge angle [[α]] (α) of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

9. (Currently Amended) Electromechanical brake, especially for vehicles, with an electrical actuator which generates an actuation force and acts on one friction member in order to press said member to elicit a friction force against a rotational component, which is to be braked, of the brake, and a self-boosting device arranged between the friction member and the electrical actuator, said device serving to self-boost the actuation force generated by the electrical actuator, and having at least one wedge (12), which has a wedge surface (14) arranged at a wedge angle [[α]] (α) and supported on a corresponding counter bearing (16), wherein

- the electrical actuator displaces the wedge (12) relative to the counter bearing (16) in an actuation direction (x) to actuate the brake, and

- the wedge angle [[α]] <u>(α)</u> is constant on a first segment (18) of the wedge surface (14), which is effective at the start of brake actuation, and is, on a second segment (20) which follows the first segment (18), smaller than on the first segment (18);

characterized in that the wedge angle [[α]] <u>(α)</u> along the second segment (20) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_{2,x} = \mu_{min} + (\tan\alpha_1 - \mu_{min}) \frac{\mu_\chi}{\mu_{max}}$$

where

$\alpha_{2,x}$ = wedge angle of second segment of wedge surface as function of actuation distance x

α_1 = wedge angle of first segment of wedge surface

μ_x = maximum coefficient of friction as function of actuation distance x

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

10. (Currently Amended) Brake according to Claim 2,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

11. (Currently Amended) Brake according to Claim 3,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

12. (Currently Amended) Brake according to Claim 4,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

13. (Currently Amended) Brake according to Claim 5,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

14. (Currently Amended) Brake according to Claim 6,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

15. (Currently Amended) Brake according to Claim 7,

characterized in that the wedge angle [[α]] <u>(α)</u> of the first segment (18) of the wedge surface (14) is determined by the relationship

$$\tan\alpha_1 = \frac{\mu_{max} + Z \cdot \mu_{min}}{1 + Z}$$

where

α_1 = wedge angle of first segment of wedge surface

μ_{max} = maximum coefficient of friction

μ_{min} = minimum coefficient of friction

Z = safety factor

16. (Cancelled)